

REMARKS / ARGUMENTS

Applicant thanks the Examiner for the Office Action of June 12, 2007. This Amendment is in full response thereto. Thus, Applicant respectfully requests continued examination and allowance of the application.

Objection to Claims:

Claim 18 was objected to due to the repeated phrase "prior to". Applicants have amended the claim to delete the second recitation of the phrase. Thus, the objection should be withdrawn.

Rejection of Claims Under 35 U.S.C. § 102(b):

Claims 1, 5-9, and 19 were rejected under 35 U.S.C. § 102 (b) as anticipated by Bingham (GB600619). Applicants have canceled the claims thereby mooting the rejection.

Claims 1-2, 10-11, and 14 were rejected under 35 U.S.C. § 102 (b) as anticipated by Fey (U.S. Patent No. 4,105,888). With respect to claims 1-2 and 11, Applicants have canceled these claims thereby mooting the rejection as to those claims.

With respect to claims 10 and 14, Applicants respectfully traverse because Fey fails to disclose, teach, or suggest all of the limitations of the claims, including directing at least one reactant feed stream including methane into the acetylene generation device, wherein the acetylene generation device comprises an arc plasma reactor including an anode and a cathode disposed within the reactor, and the acetylene is generated by generating plasma within the reactor via a power supply connected to the anode and the cathode thereby yielding acetylene and hydrogen according to the formula: $2\text{CH}_4 \longrightarrow \text{C}_2\text{H}_2 + 3\text{H}_2$. Rather, Fey discloses

production of acetylene produced from the reaction of a heavy hydrocarbon with a reducing gas. As such, the rejection should be withdrawn as to claims 10-11 and 14.

Rejection of Claims Under 35 U.S.C. § 103(a):

Claims 3 and 12 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fey in view of Kubota (U.S. 5,702,540). With respect to claim 3, Applicants have canceled that claim thereby mooted the rejection as to that claim. With respect to claim 12, Applicants respectfully traverse because Fey fails to teach, disclose, or suggest all the limitations of claim 12, particularly the reaction of methane to form acetylene, and Kubota fails to cure the deficiency of Fey. As such, the rejection of claim 12 should be withdrawn.

Claims 15-18 were also rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fey in view of Hook (U.S. Patent No. 5,960,634) and Poor (U.S. Patent No. 7,033,446). Applicants respectfully traverse because Fey fails to disclose, teach, or suggest all of the limitations of the claims, particularly the reaction of methane to form acetylene, and Hook and Poor fail to cure that deficiency. As such, the rejection should be withdrawn.

Should the Examiner believe a telephone call would expedite the prosecution of the application, the Examiner is invited to call the undersigned attorney at the number listed below. It is believed that no fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

/Christopher J. Cronin/

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